AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

1-31. (Cancelled)

32. (Previously presented) A method for determining an autofluorescence value of clinically healthy skin tissue of a patient, comprising:

irradiating material of said skin tissue with electromagnetic excitation radiation;

receiving and measuring an amount of electromagnetic, fluorescent radiation emitted by said material in response to said irradiation; and

generating, in response to said measured amount of fluorescent radiation, a signal which represents a determined autofluorescence value for the respective patient;

wherein said skin tissue is clinically healthy, intact skin tissue in vivo of which a surface is irradiated noninvasively and simultaneously in its entirety, wherein fluorescent radiation emitted in response to said irradiation is simultaneously received from different portions of the skin surface, and wherein the size of the skin surface from which the measured fluorescent radiation is received is at least 1 cm^2.

33. (Previously presented) A method according to claim 32, wherein in response to at least one determined autofluorescence value an advanced glycation/glycosylation end product content for said patient is determined and signaled.

34. (Previously presented) A method according to claim 62, wherein the measured fluorescent radiation is received via a measuring window bounding a surface area, and wherein the surface area of said portion of the skin from which the measured fluorescent radiation is received is larger than the surface area bounded by said measuring window.

35. (Previously presented) A method according to claim 34, wherein the surface area of the skin from which the measured fluorescent radiation is received is at least three times larger than the surface area bounded by said measuring window.

36. (Currently amended) A method according to claim 32, wherein said fluorescent radiation is received via a measuring window; and wherein said measuring window is ~~held~~ oriented at an angle of 25-65° relative to the irradiated surface of the skin.

37. (Currently amended) A method according to claim 32, wherein a supporting structure is held against the skin of the patient, wherein the irradiated skin tissue area is located behind an opening in the supporting structure, wherein the supporting structure supports a measuring window, wherein said fluorescent radiation is received via [[a]] said measuring window and wherein said measuring window is held at a distance from the skin.

38. (Previously presented) A method according to claim 32, wherein the irradiation with electromagnetic excitation radiation in a first wavelength range and the measurement of emitted electromagnetic fluorescent radiation in a second wavelength range outside said first wavelength range takes place simultaneously with the irradiation, while all wavelengths of said first wavelength range are smaller than all wavelengths of said second wavelength range, and said first wavelength range comprises a wavelength in a range of 300-420 nm, and said second wavelength range comprises a longer wavelength in a range of ≤600 nm.

39. (Previously presented) A method according to claim 32, further comprising determining an aggregated amount of detected electromagnetic radiation over a particular wavelength range, while determining said autofluorescence value occurs in response to said aggregated amount of detected electromagnetic radiation.

40. (Previously presented) A method according to claim 32, further comprising: passing radiation coming from said skin tissue to a spectrometer, dividing received radiation within a measuring range of wavelengths into fractions per wavelength sub-range, and aggregating detected fractions of fluorescent radiation to an aggregated amount of detected electromagnetic radiation, while determining said autofluorescence value occurs in response to said aggregated amount of detected electromagnetic radiation.

41-42. (Cancelled)

43. (Previously presented) A method according to claim 32, wherein said fluorescent radiation coming from at least a portion of said irradiated skin surface is detected after the irradiation of said at least one portion of said skin surface has been changed.

44. (Previously presented) A method according to claim 43, wherein said fluorescent radiation is detected in at least one wavelength corresponding with at least one wavelength of said excitation radiation.

45. (Previously presented) A method according to claim 43, wherein said excitation radiation is emitted in a pulsating or modulated fashion.

46. (Cancelled)

47. (Previously presented) An apparatus for determining an autofluorescence value of clinically healthy skin tissue of a patient, comprising:

a pick-up unit with:

a radiation source, for in vivo and noninvasively irradiating a surface of intact skin tissue behind an irradiation window with electromagnetic excitation radiation; and

a detector for measuring an amount of electromagnetic fluorescent radiation received from a surface area of said skin tissue of at least 1 cm^2; and

circuitry connected to said pick-up unit for generating an autofluorescence value for said clinically healthy, skin tissue in agreement with the measured amount of fluorescent radiation originating from said surface area of said skin tissue.

48. (Previously presented) An apparatus according to claim 47, further comprising means for determining and signaling in response to at least one determined autofluorescence value an advanced glycation/glycosylation end product content for said patient.

49. (Previously presented) An apparatus according to claim 66, further comprising a measuring window bounding a surface area for passing fluorescent radiation to be detected from said portion of the skin surface from which said amount of fluorescent radiation is received to the detector, said portion of the skin surface from which said amount of fluorescent radiation is received being larger than the surface area bounded by said measuring window.

50. (Previously presented) An apparatus according to claim 49, wherein said portion of the skin surface from which said amount of fluorescent radiation is received is at least three times larger than the surface area of said measuring window.

51. (Currently amended) An apparatus according to claim 47, further comprising a supporting structure to be held against a skin of a patient, for defining a plane in which a surface portion of said skin tissue to be irradiated is located, wherein the supporting structure supports a measuring window for passing light to be detected ~~coming~~ originating from said irradiated skin tissue, said measuring window being oriented at an angle of 25-65° relative to said plane and located for receiving radiation emitted from the skin in a direction at an angle to the direction of the excitation radiation.

52. (Currently amended) An apparatus according to claim 51, wherein said supporting structure comprises the irradiation window ~~for delimiting a surface portion of said skin tissue to be irradiated~~, said measuring window being located adjacent an edge of said irradiation window.

53. (Currently amended) An apparatus according to claim 47, further comprising a supporting structure to be held against a skin of a patient, for defining a plane in which a surface of said skin tissue to be irradiated is located behind an opening in the supporting structure, wherein the supporting structure supports a measuring window for passing light to be detected ~~coming~~ originating from said irradiated skin tissue, wherein said measuring window is spaced away from said plane.

54. (Previously presented) An apparatus according to claim 47, further comprising a supporting structure to be held against a skin of a patient, for defining a plane in which a surface of said skin tissue to be irradiated is located, wherein the supporting structure supports a measuring window for passing light to be detected coming from said irradiated skin tissue, wherein the position of the measuring window is adjustable for adjusting the distance between said measuring window and said irradiation window.

55. (Previously presented) An apparatus according to claim 47, further comprising an optical filter between said radiation source and said irradiation window.

56. (Previously presented) An apparatus according to claim 47, wherein said radiation source is an electrofluorescent lamp for emitting radiation in a wavelength range of 300-420 nm.

57. (Previously presented) An apparatus according to claim 47, wherein said radiation source is a light-emitting diode or laser diode for emitting radiation having at least one wavelength in a wavelength range of 300-420 nm.

58. (Previously presented) An apparatus according to claim 47, further comprising a measuring window for passing light to be detected coming from said irradiated skin tissue, and a spectrometer arranged for receiving radiation passing through said measuring window.

59. (Cancelled)

60. (Previously presented) An apparatus according to claim 47, further comprising control means for changing the excitation radiation such that the excitation radiation is different in a second irradiation period than in a first irradiation period.

61. (Previously presented) An apparatus according to claim 60, adapted for intermittently irradiating said skin tissue and for separately detecting radiation coming from said skin tissue in periods alternating with said intermittent irradiation.

62. (Previously presented) A method for determining an autofluorescence value of clinically healthy skin tissue of a patient, comprising:

irradiating material of said skin tissue with electromagnetic excitation radiation;

receiving and measuring an amount of electromagnetic, fluorescent radiation emitted by said material in response to said irradiation; and

generating, in response to said measured amount of fluorescent radiation, a signal which represents a determined autofluorescence value for the respective patient;

wherein said irradiated skin tissue is clinically healthy, intact skin tissue in vivo of which a surface portion is irradiated noninvasively and simultaneously in its entirety, wherein the measured fluorescent radiation is received from a portion of said irradiated surface portion of said skin only, and wherein the size of the skin surface from which the measured fluorescent radiation is received is larger than 0.1 cm^2.

63. (Previously presented) A method according to claim 62, wherein in response to at least one determined autofluorescence value an advanced glycation/glycosylation end product content for said patient is determined and signaled.

64. (Previously presented) A method according to claim 62, wherein the measured fluorescent radiation has one or more wavelengths larger than 420 nm.

65. (Previously presented) A method according to claim 32, wherein the measured fluorescent radiation has one or more wavelengths larger than 420 nm.

66. (Previously presented) An apparatus for determining an autofluorescence value of clinically healthy skin tissue of a patient, comprising:

a pick-up unit with:

a radiation source, for in vivo and noninvasively irradiating a surface portion of intact skin tissue behind an irradiation window with electromagnetic excitation radiation; and

a detector for measuring an amount of electromagnetic fluorescent radiation received from a portion of said irradiated skin surface portion only, the size of said portion of the skin surface from which said amount of fluorescent radiation is received being larger than 0.1 cm^2; and

circuitry connected to said pick-up unit for generating an autofluorescence value for said clinically healthy, skin tissue in agreement with a measured amount of fluorescent radiation originating from said surface area of said skin tissue.

67. (New) A method according to claim 62, wherein the size of the skin surface from which the measured fluorescent radiation is received is at least 1 cm^2.

68. (New) An apparatus according to claim 66, wherein the detector is arranged for measuring electromagnetic fluorescent radiation received from a surface area of said skin tissue of at least 1 cm^2.

69. (New) A method for determining an advanced glycation/glycosylation end product content for a patient, comprising:

irradiating material of said skin tissue with electromagnetic excitation radiation;

receiving and measuring an amount of electromagnetic, fluorescent radiation emitted by said material in response to said irradiation; and

generating, in response to said measured amount of fluorescent radiation, a signal which represents a determined advanced glycation/glycosylation end product content for said patient;

wherein said skin tissue is clinically healthy, intact skin tissue in vivo of which a surface is irradiated noninvasively and simultaneously in its entirety;

wherein fluorescent radiation emitted in a direction at an angle to the direction of the excitation radiation is simultaneously received from different portions of the skin surface;

wherein the size of the skin surface from which the measured fluorescent radiation is received is at least 0.1 cm^2;

wherein said fluorescent radiation is received via a measuring window; and

wherein said measuring window is oriented at an angle of 25-65° relative to the irradiated surface of the skin.

70. (New) A method for determining an advanced glycation/glycosylation end product content for a patient, comprising:

irradiating material of said skin tissue with electromagnetic excitation radiation via an opening in a surface contacting the skin;

receiving and measuring an amount of electromagnetic, fluorescent radiation emitted by said material in response to said irradiation; and

generating, in response to said measured amount of fluorescent radiation, a signal which represents a determined advanced glycation/glycosylation end product content for said patient;

wherein said skin tissue is clinically healthy, intact skin tissue in vivo of which a surface is irradiated noninvasively and simultaneously in its entirety;

wherein fluorescent radiation emitted in response to said irradiation is simultaneously received from different portions of the skin surface;

wherein the size of the skin surface from which the measured fluorescent radiation is received is at least 0.1 cm^2; and

wherein said fluorescent radiation is received via a measuring window and wherein said measuring window is held at a distance from the skin.

71. (New) An apparatus for determining an advanced glycation/glycosylation end product content for a patient, comprising:

a pick-up unit with:

a radiation source, for in vivo and noninvasively irradiating a surface of intact skin tissue with electromagnetic excitation radiation via an irradiation window for delimiting a surface portion of said skin tissue to be irradiated; and

a detector for measuring an amount of electromagnetic fluorescent radiation received from a surface area of said skin tissue of at least 0.1 cm^2 in a direction at an angle to the direction of the excitation radiation;

circuitry connected to said pick-up unit for generating a value representing a determined advanced glycation/glycosylation end product content for said patient in agreement with the measured amount of fluorescent radiation originating from said surface area of said skin tissue; and

a supporting structure to be held against a skin of a patient, for defining a plane in which a surface portion of said skin tissue to be irradiated is located;

wherein the supporting structure supports a measuring window for passing light to be detected from said irradiated skin tissue, said measuring window being oriented at an angle of 25-65° relative to said plane.

72. (New) An apparatus for determining an advanced glycation/glycosylation end product content for a patient, comprising:

a pick-up unit with:

a radiation source, for in vivo and noninvasively irradiating a surface of intact skin tissue behind an irradiation window with electromagnetic excitation radiation in a direction perpendicular to the skin; and

a detector for measuring an amount of electromagnetic fluorescent radiation received from a surface area of said skin tissue of at least 0.1 cm^2;

circuitry connected to said pick-up unit for generating a value representing a determined advanced glycation/glycosylation end product content for said patient in agreement with the measured amount of fluorescent radiation originating from said surface area of said skin tissue; and

a supporting structure to be held against a skin of a patient, for defining a plane in which a surface of said skin tissue to be irradiated is located behind an opening in the supporting structure, wherein the supporting structure supports a measuring window for passing light to be detected coming from said irradiated skin tissue, wherein said measuring window is spaced away from said plane.